REMARKS

Claims 1-37 are pending after this amendment.

Claim 3 has been corrected in the manner suggested by the Examiner.

Claims 1, 4, 19, 20 and 24 have been amended to supply missing punctuation. This amendment is submitted to not alter the scope of these claims.

The Office Action has cited the combination of Mizuno and Christopher et al. in relation to the pending claims.

Mizuno

As understood, Mizuno discloses a system for creating lithographic printing plates (21). After lithographic plates are imaged and developed in a conventional manner using separate imaging and developing devices, Mizuno scans the plates in an "image area rate measuring apparatus" (15). This apparatus includes an optical detection head (101) which measures image area rates of a moving lithographic plate. The measured rates are used to control ink supply on a printing press by way of an "ink supply amount adjusting apparatus" (24).

The Examiner has pointed out correctly that Mizuno fails to teach or suggest analysing reflected radiation to determine optimal adjustment for any imaging process parameters.

Christopher et al.

Christopher et al., as understood, disclose a system for controlling an engraver. The system measures dimensions of engraved cells using a video camera. The video camera is used to measure the dimensions of engraved cells to correct for drift (col. 5, ln. 17-24). The system can provide closed loop control of the engraving of highlight cells (col. 13, ln. 36). The system controls the engraver to make cuts in accordance with predetermined setup parameters (col. 2, ln. 25-6 and 48-9). The setup parameters correspond to the desired dimensions of engraved cells (col. 6, ln. 32-5).

Claims 1 to 18

Claim 1 recites a method for preparing a lithographic printing surface which includes "analysing said reflected radiation to determine optimal adjustment for said imaging process parameter". Neither of the cited references teaches such a method.

The Office Action asserts that it would have been obvious to "use the analyzed test pattern of Mizuno to determine an optimal adjustment for image processing parameters, as taught by Christopher et al." The Applicant submits that this is incorrect for several reasons.

The control methods of Christopher et al. are closed-loop methods which control a stylus to produce engraved cells. Christopher et al. control the stylus to engrave cells based in part on an error value. The error value is determined by comparing the dimensions of cells previously engraved on the same printing cylinder to predetermined setup values. These methods could not work to optimize any imaging process parameter in the context of Mizuno which has a developing process (performed in developer (14)) intervening between imaging (in printing apparatus (13)) and scanning (in image rate measuring apparatus (15)). After Mizuno's plate has been developed in developing apparatus (14) and scanned in image area rate measuring apparatus (15) it is too late to make changes which would affect that plate. Christopher et al. point out that adjustments must be made during the making of each plate because of drift (col. 5, ln. 17-24).

Further, the output from Mizuno's image area rate measuring apparatus (15) could not be used in the Christopher et al. control system. The Mizuno image area rate measuring apparatus (15) is capable only of crude, low-resolution, measurements of a lithographic plate (21). This is suitable for determining an image area rate, which is Mizuno's sole purpose. It would not be suitable for the purposes of Christopher et al. which require resolution high enough to measure the sizes of individual engraved cells. Therefore, a person skilled in the art would not consider using the output from Mizuno's image rate measuring apparatus as the basis for a control system of the type taught by Christopher et al.

Further, in general, it would not be obvious to attempt to apply the Christopher et al. mechanism to lithographic printing. The Christopher et al. control mechanism is specific to engraving which is exceedingly different from lithographic printing, as is known to routineers in the art. More specifically, the Christopher et al. mechanism measures the dimensions of individual engraved cells which have been produced by mechanical motions of a stylus. Neither cited reference provides any suggestion that such measurements could be used to optimize a process for making lithographic plates. Indeed, in most cases, optimizing a process for exposing lithographic printing plates does not result in dimensional changes of a type which could be measured by the Christopher et al. apparatus.

In addition to the above, Christopher et al. is not directed to optimization but is rather directed to controlling an engraving system to make cells of a predetermined desired size. Christopher et al. apparatus relies upon an operator to key in the predetermined setup parameters which determine what the desired size is (col. 6, ln. 32-6).

In light of the foregoing, the Applicant submits that claim 1, and claims 2-18, which depend from claim 1, are patentable over the cited combination of Mizuno and Christopher et al.

Claim 19

Claim 19 recites "wherein the formation of said test pattern and the measurement of said reflectivity is performed using the same imaging system". Applicant submits that it would not be obvious to modify Mizuno to provide this feature because of the developing step that occurs between imaging a lithographic plate in printing apparatus (13) and scanning in image area rate measuring apparatus (15). Mizuno places image area rate measuring apparatus (15) in a natural location at the output of developing apparatus (14). It would not make sense to return Mizuno's developed plates to printing apparatus (13) for scanning after they have been developed. Iizuka fails to remedy this defect because the Mizuno plates cannot be scanned until after they are developed.

Therefore, the Applicant submits that claim 19 patentably distinguishes the cited references.

Claims 20-23

Claim 20 recites a method which includes "measuring the reflectivity of said test pattern on said lithographic printing surface" and, "adjusting the calibration of said imaging system based on the measured reflectivity". Both of these steps are performed after "converting said lithographic printing precursor into a lithographic printing surface". The Applicant submits that one would not arrive at claim 20 by making an obvious combination of Mizuno, Christopher et al, and Love III.

As discussed above in relation to claims 1-18, it would not be obvious to attempt the combination of Mizuno and Christopher et al. because of:

- the great differences between engraving and preparing lithographic printing plates;
- the cell dimensions measured by Christopher are not relevant to calibrating lithographic printing equipment;

- the Mizuno image area rate measuring apparatus (15) does not acquire information sufficient to perform the Christopher et al. methods.

Love III fails to cure any of these deficiencies. Therefore, the Applicant submits that claim 20, and claims 21-23 which depend from claim 20 patentably distinguish the cited references.

Claim 24

Claim 24 recites a printing apparatus which includes a "means of processing the signals corresponding to said reflected radiation to determine optimal adjustment of the imaging parameters of said apparatus". As discussed above, the cited references fail to teach or suggest the claimed methods, which include this function. The cited references also fail to teach or suggest apparatus which includes such a means, as disclosed in this application and claimed in claim 24.

Therefore the applicant submits that claim 24 patentably distinguishes the cited references.

New claims

New claims 25 - 37 are submitted to be fully supported by the disclosure of this application and to patentably distinguish all of the references of record.

Conclusion

The Applicant submits that the claimed invention is patentable over the cited references and respectfully requests reconsideration and allowance of this application.

Respectfully submitted,

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